PATENT SPECIFICATION

699,006

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COMPLETE SPECIFICATION

Improvements in or relating to Refrigerator Boxes

I, HANS STIERLIN, a Swiss citizen, of 115, Feldblumenstrasse, Zurich 9, Switzerland, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to a refrigerator box in which at least the door-opening defining rims of an inside lining and an outside sheathing sheets are interconnected by means of a non-metallic frame, the sheet edges being engaged in grooves of the frame.

In known refrigerators, the said rims at the door-opening are edged or bordered and interconnected by means of screwed-on wooden or plastic frames. Wooden frames, however, have the disadvantage that they warp and rot owing to adsorption of moistures, whilst frames made of plastic or artificial resin are exposed to the risk of breakage when they are screwed-down. Affixing frame portions to sheathing and lining sheets by screwing-down moreover does not permit of positively sealing the lagging disposed between the said sheets against the ingress of moisture, unless special means and measures are employed (e.g. clamping and tightening members) which increases the costs of such refrigerators.

The refrigerator box disclosed by the present invention overcomes these disadvantages and is characterised in that the cross-sectional area of the grooves of the frame is widened inwardly and filled by a bonding material.

One embodiment of the invention is shown, by way of example, in the accompanying drawing in which:—

Fig. 1 shows the refrigerator box partly cut open, the door being omitted;

Fig. 2 is a horizontal section through a box-wall portion defining the door-opening and through a door-portion which abuts against the said wall portion when in closed position; and

Fig. 3 depicts in an enlarged cross-section the manner of fixing a sheet-rim in an edging-frame.

Numeral 1 denotes the exterior or sheathing-sheet, and 2 is the interior or lining-sheet of the box, a lagging 3 being disposed therebetween. A rim portion 1^1 of the sheathing frontside (which encircles the door-opening) is bent over inwardly at right angles, and the front rim-portion 2^1 of the lining 2 terminates in the box casing. Each of the two rim-portions 1^1 and 2^1 is mounted in a groove 4^1 and 4^{11} of a frame 4, the said two grooves extending over the entire circumference of either of said sheets. The frame 4 is moulded of artificial resin and forms an edging of the door-opening which edging extends at an angle into the box interior, the said frame interconnecting the two sheets 1 and 2. In order to provide a positive anchorage of the two sheets 1 and 2 on the frame 4, the cross-sectional areas of the border grooves 4^1, 4^{11} are inwardly widened by milling, and the sheet-edges are serrated, as shown in Fig. 3 for the lining-portion 2^1 and the frame-grooves 4^{11}. The said serrations serve for anchoring the sheet-edges 1^1, 2^1 in a cement introduced into the two grooves 4^1 and 4^{11}, such cement preferably consisting of an artificial resin.

In a manner similar to that employed for the sheathing and lining sheets, the rim 5^1 of a door-lining 5 and the rim 6^1 of a door-sheathing 6 are secured in the respective grooves of a frame 8 which forms the rim of the door. The rim 5^1 is bent-over outwardly at right angles, and the rim 6^1 is bent over inwardly at right angles. The two sheets 5 and 6 enclose a lagging 7 and are rigidly interconnected in the manner described.

A fairing 9 which forms the front face of the refrigerator-door, is secured to the sheathing-sheet 6, such as by the spot-welding. The fairing 9 has a rim 9^1 which is bent over inwardly and frames the door frontside. The two rims 9^1 and 6^1 firmly engage a rubber pad 10 which serves as seal for the door-gap and as bumper.

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The said cement introduced into the grooves 4^{I}, 4^{II} and into the two continuous circumferential grooves of the door-frame 8, instead of being made of artificial resin, may be a hardenable putty or a hydraulic binder such as gypsum, e.g., and the joints suitably are provided with a water-proof sealing coat.

The refrigerator box described, which comprises reliable and sealed joints, may be manufactured at substantially less expense than known boxes of this type and in mass production at relatively low costs.

What I claim is:—

1. A refrigerator box in which at least the door-opening defining rims of an inside lining and of an outside sheathing sheet are interconnected through a non-metallic frame, the sheet-edges being engaged in grooves of the frame characterised in that the cross-sectional area of each groove is widened inwardly and the groove fitted with a bonding material.

2. A refrigerator box as set out in Claim 1 wherein the sheet edge which is bonded in the widened groove is provided with serrations or other means for anchoring the edge in interlocking engagement with the bonding material.

3. A refrigerator box as set out in Claim 1 wherein a fairing which forms the door-frontside is secured in the door-sheathing, the said fairing through its inwardly bent-over-rim retaining a buffer which seals the door-gap.

4. The improved refrigerator box, constructed and assembled substantially as shown and as described with reference to the accompanying drawing.

Dated the 31st day of March, 1952.

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1 SHEET

This drawing is a reproduction of the Original on a reduced scale.

Fig. 1

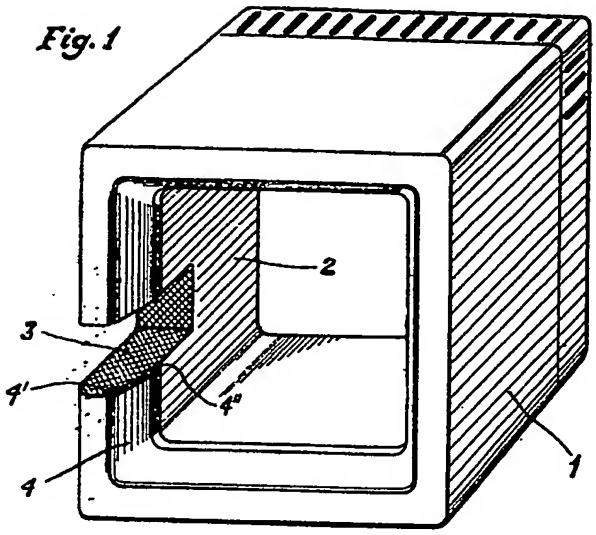

Fig. 3

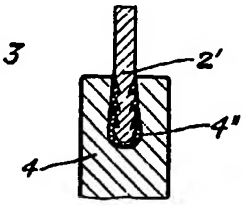

Fig. 2